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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,225	07/06/2005	Archie W. Garner	13015/38719BUS	7214
4743	7590	07/02/2009	EXAMINER	
MARSHALL, GERSTEIN & BORUN LLP 233 SOUTH WACKER DRIVE 6300 SEARS TOWER CHICAGO, IL 60606-6357			GILLESPIE, BENJAMIN	
ART UNIT	PAPER NUMBER			
		1796		
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07/02/2009	PAPER			

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/521,225	<b>Applicant(s)</b> GARNER ET AL.
	<b>Examiner</b> BENJAMIN J. GILLESPIE	<b>Art Unit</b> 1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 02 April 2009.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-3 and 5-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3 and 5-27 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/0256/06)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

#### **DETAILED ACTION**

1. Since the claims have not been amended and the grounds of rejection remain the same as set forth in the preceding Office Action mailed 12/16/2008, it is therefore proper to make the present action Final

##### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 26 and 27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding the triol mole% range of claims 26 and 27, the examiner notes that page 9 of applicants' specification provides sufficient support for the *upper limit* of said range, however, the relied upon example 3 does not constitute sufficient support for the *lower limit* of the claimed range.

3. Applicants' relied upon example 3 does not disclose a *range* of triol mole %, but instead only provides support for the single mole % value of 1.4. Furthermore, even if applicants maintain that example 3 is sufficient support for the lower limit of triol, it should be noted that said range still constitutes new matter since claim 1 and 22 are not limited to any type of triol, yet example 3 only provides support for triol consisting of trimethylolpropane.

##### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Anticipation Rejection I**

4. Claims 1-3, 5-12, 16-21, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Tomotsugu et al ('613). The rejection has been previously presented in paragraphs 4 and 5 of the non-final rejection mailed 12/16/2008, herein incorporated by reference.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Obviousness Rejection I**

6. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomotsugu et al ('613). The rejection has been previously presented in paragraphs 7 and 8 of the non-final rejection mailed 12/16/2008, herein incorporated by reference.

**Obviousness Rejection II**

7. Claims 1-3, 4-12, 16-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomotsugu et al ('613) in view of Bristowe et al ('837). The rejection has been previously presented in paragraphs 9-13 of the non-final rejection mailed 12/16/2008, herein incorporated by reference.

**Obviousness Rejection III**

8. Claims 1-3, 5-21, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sirkoch et al ('003). The rejection has been previously presented in paragraphs 14 and 15 of the non-final rejection mailed 12/16/2008, herein incorporated by reference.

**Obviousness Rejection IV**

9. Claims 1-3, 5-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sirkoch et al ('003) in view of Bristowe et al ('837). The rejection has been previously presented in paragraphs 16-18 of the non-final rejection mailed 12/16/2008, herein incorporated by reference.

***Response to Arguments***

**Response I**

10. Applicants' arguments filed 4/2/2009, with respect to the rejection of claims 26 and 27 under 353 U.S.C. 112 1<sup>st</sup> paragraph have been considered but are not persuasive.

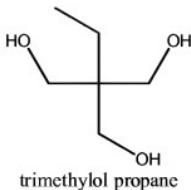
11. Applicants argue that support for the ranges of claims 26 and 27 is present in the instant application since the broad disclosure of a range "0 to 5 mol%" encompasses all values within

said range, and therefore one of ordinary skill would understand that the selection of 1.4 mol% is not new matter because it is already present within the range of 0 to 5 mol%.

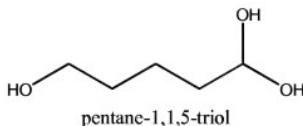
12. While the examiner agrees that the numerical value "1.4" falls between 0 and 5, it is important to note that "1.4" was never specifically disclosed as being a suitable the lower end point for the trial mol %. The fact that the specific value of 1.4 mol% is exemplified does not establish that applicants previously envisaged lower end points of 1.4 mol% (emphasis added).

13. Furthermore, the 1.4 mol% is only supported for triol consisting of trimethylolpropane, however, this is not commensurate with claims 1, 22, 26, or 27, which are open to *any triol*. It is noted that applicants argue "persons skilled in the art are well aware of the definition of triol and the identities of triols" – however, this fails to establish that applicants previously envisaged the claimed mol range for *all triol*.

14. While the examiner agrees that term "triol" is commonly known within the art - i.e. low molecular weight compound having three hydroxyl groups - it should be noted that the presence of three hydroxyl groups does *not* establish all triols will have the same properties in a given reaction system or result in analogous products. For example trimethylol propane has the structure:



15. Wherein each hydroxyl group is separated by at least three carbons and there are no secondary hydroxyl groups. However, pentane, 1,1,5-triol, which has the structure:



16. Has two secondary hydroxyl groups that are separated by a single carbon atom while the third hydroxyl group is separated by five carbon atoms. Based on the an asymmetrical geometry and the fact that pentane-1,1,5-triol has hydroxyl groups with different reactivities, the resulting reaction system/polymer would be distinct from that based solely on glycerin. Therefore, without support from the specification, one of ordinary skill would not blindly interchange *any triol* for trimethylolpropane based solely on the fact that both compounds contain three hydroxyl groups. With this understanding, the position is maintained that applicants' examples are not sufficient to support the breadth of claims 26 and 27.

**Response II**

17. Applicants' arguments filed 4/2/2009, with respect to the rejection of claims 1-3, and 5-27 have been considered but are not persuasive.

18. In particular, applicants argue that **Anticipation Rejection I; Obviousness Rejection I;** and **Obviousness Rejection III** can not be sustained because although Tomotsugu et al teach a urethane acrylate based on the reaction product of the same (a), (b), and (c) components, said urethane acrylate is not produced by the product-by-process limitations of claim 1.

19. In response, the examiner notes that the product-by-process limitations are not disclosed by Tomotsugu et al – in fact this has already been conceded in the body of the rejection. Instead, applicants should noted that:

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does

not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

20. With this understanding, said product-by-process fails to provide a patentable distinction over the prior art since applicants' current examples provide no inventive examples or comparative data showing how the claimed "adding the diisocyanate to a blend of the oligoester and hydroxyalkyl (meth)acrylate" results in the *alleged* mixture of branched and non-branched urethane acrylates. **The position that said product-by-process holds weight is unpersuasive because it has not been supported by any factual data and instead appears to be an unsubstantiated opinion (emphasis added).**

21. Furthermore, if applicants maintain that their examples are sufficient to establish patentable weight for the claimed product-by-process, it should be noted that examples 1 and 2 do not include triol, and example 3 fails to "[add] the diisocyanate to a blend of the oligoester and hydroxyalkyl(meth)acrylate" and instead adds the diisocyanate and acrylate at the same time – i.e. a different product-by-process than that recited in claim 1. Therefore, applicants' examples still fail to establish the claimed product-by-process is patentably distinct because they are not representative of the claimed limitations.

22. Applicants also argue that **Obviousness Rejection II and Obviousness Rejection IV** cannot be sustained because one would not be motivated to combine the teachings of Tomotsugu et al or Sirkoch et al with Bristowe et al since Tomotsugu et al and Sirkoch et al are drawn to the reaction product of aliphatic reactants, while the relied upon teachings of Bristowe et al are only relevant for aromatic reactants.

23. In response, and as stated in paragraph 26 of the non-final rejection mailed 12/16/2008, it is noted that the polyester of Bristowe et al is semiaromatic, however, the fact remains that the reaction between isocyanate and hydroxyl groups is **exothermic** - regardless of whether the reactants are aromatic or aliphatic. Therefore, while the exotherm of aromatic reactants may be greater than that of aliphatic reactants, one of ordinary skill would still be motivated to control said exothermic reaction in either aliphatic or aromatic systems in order to preserve the unreacted acrylate groups. Therefore, applicants' position that Bristowe et al is irrelevant to Tomotsugu et al and Sirkoch et al is not persuasive since, regardless of aromatic or aliphatic reactants, one would be motivated to control the amount of heat released during the formation of urethane acrylates in order to prevent any premature consumption of acrylate groups.

24. Finally, it is noted that Bristowe et al teach the urethane acrylate is curable by UV radiation, however, said urethane acrylates can also be cured by heat (Col 7 lines 17-19).

#### *Conclusion*

25. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

26. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin J. Gillespie whose telephone number is 571-272-2472. The examiner can normally be reached on 8am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

28. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Benjamin J Gillespie/  
Examiner, Art Unit 1796

/Vasu Jagannathan/  
Supervisory Patent Examiner, Art Unit 1796